snow which had recently fallen, and, as the birds plied, on every branch, their unwearied task, a thin veil of snow was continually shaken to the ground, and through it the bright colored beams of the newly risen sun cast a rosy light. The buds, terminal and axillary, of the Norway spruce, are small, and the birds left on the tree the scales of the lower half, extracting the rest to the very base of the bud. The reason for this would appear to be, that there is a natural point of division, half way between the base and the end of the bud, the scales on the lower half being, apparently. tougher and more firmly attached to the stem. The natural instinct and experience of the bird would teach him to attack the bud at the weakest point. From the base of the bud thus extracted, the bird would quickly pick out the small nucleus of tender tissue, the germ of the next year's growth of stem or inflorescence. This growing point I found to be just the size of the head of an ordinary pin, so that it is no wonder that the poor hungry grosbeak was not to be satisfied in a short time.

The bird, having picked out this nucleus, would throw the remnant to the ground, and the snowy carpet beneath the trees was thickly covered with bud scales, which were lying either separately or in the shape of the little bud as it was picked from the tree. A small hole under the bud showed where the vegetative cone had once been. I carefully examined portions of one large spruce, and I was unable to find a single bud intact. I have heard that a judicious pruning of the buds of a tree by the feathered tribe gives new vigor to the tree, but what will be the effect of this wholesale slaughter? I shall watch the trees with interest this spring, when the buds should begin to unfold.

The grosbeaks were here but a few days. As soon as they had exhausted the food supply, they departed for new fields. It is to be hoped that they have already satisfied their boundless appetites, and given the remaining spruces, at least, a chance to awake in the spring from their winter's nap.—WALTER DEANE, *Cambridge, Mass.*, Jan. 22, 1893.

EDITORIAL.

ATTENTION should be called to the work of the standing committee of the American Association on Biological Nomenclature. This Committee is the American representative of a proposed International Committee, having been appointed in response to a request from the Australasian Association. The movement promises to be as extensive as the original intention, and the American Committee, composed of

Goodale, Coulter, Gill, Minot, and Gage, have gone seriously to work to prepare their contribution to the work of the International Committee, the larger share of which, it is but just to say, has fallen upon Professor Gage. In these days, when investigation is being multiplied so enormously, and new terms are being constantly coined, a uniform system of nomenclature in morphology is becoming no less desirable than in systematic work. The committee has formulated certain underlying principles to guide in the selection of a biological terminology, and it is the desire of the GAZETTE to call the attention of American botanists to these principles. The first is that the names of organs and parts, and terms indicating position and direction, should be single designatory words so far as possible, rather than descriptive phrases. The necessity for this becomes more apparent in zoological anatomy, where the names of men are often applied to anatomical structures, than in botanical, where the tendency is to follow this rule, though there are notable exceptions. Another principle, which would have a good deal to do with botanical terminology, suggests that morphological terms should be etymologically correct, and so far as possible derived from Greek or Latin, and that each term should have a Latin form. Such phrases as " antipodal-cells," "sieve-tubes," etc., etc., would disappear under both of these principles. Another important principle recommends that each of the technical words have, in addition to its proper Latin form, a form which shall make it conform to the genius of the various languages, that is, that a paronym be made for each technical word. This is really a very important suggestion, and the word would be so slightly changed that one familiar with its classical form would recognize it instantly in either Italian, French, German, or English. There can be no doubt that if this principle of paronyms was adhered to the intelligibility of scientific writing would be greatly increased. The word "Biology" itself is an excellent example of what is meant. Whether "Biologia," "La Biologia," "La Biologie," "Die Biologie," or "Biology," it is always recognizable.

The Committee also urgently recommend that whenever a technical word is used for the first time, the author should give, in a special note, the Latin form, the etymology, the proper paronym for his own language, and as concise and precise a definition of the term as possible. This is surely a reasonable price to pay for the introduction of a new term. This exactness of definition should be as much demanded as the exact description of a new species.

It is also a very desirable thing to unify botanical and zoological morphology so far as possible. The subject is a very difficult one, and such a movement would necessarily be slow, but it was begun when the name protoplasm was adopted for the same substance in both

plants and animals. All this involves the preparation by the International Committee of an authoritative glossary of biological terms, and the keeping of a systematic record of new terms. Like many other movements toward desired uniformity, its first result will probably be seen in the adoption by individual biologists of a conscious and systematic plan of terminology. It will not be very troublesome to unify future action; but the serious conflict will come when there is a demand to make to conform to new rules whatever of ancient terminology conflicts with them. However, American botanists should encourage this movement in every way, and it would be well to consider the subject at their next general meeting.

CURRENT LITERATURE.

The flora of Minnesota.

Minnesota has provided so liberally for its geological and natural history survey that the scientific men of other states might well feel envious. The first report[1] of the present state botanist has now been distributed and the size of the volume and excellent typography speak well for the wealth of material and opportunity for its creditable presentation. It is surprising how much can be said concerning a comparatively limited flora when one industriously studies it and begins to look at it from many points of view. Professor MacMillan has set a very high mark for state catalogues, and one that it is probably not necessary to reach in many cases. The introduction to the volume was previously distributed and noticed in this journal. In a preface the author agrees to follow the Rochester agreement and indicates the changes it would make in the nomenclature of the catalogue, the body of which was beyond his control at the time of the Rochester meeting. Although not in harmony with all the details of that agreement, the author frankly accepts them in the interest of uniformity, and if this spirit is universal American systematic botany has been emancipated from the fetish of names and can begin to study plants.

The list begins with the lower Metaspermæ and ends with the Compositæ. The Polypetalæ and Apetalæ are merged, as they ought to be, under the name Archichlamydeæ. Naturally this merging is very

[1] MacMillan, Conway.—The Metaspermæ of the Minnesota Valley. A list of the higher seed-producing plants indigenous to the drainage-basin of the Minnesota River. Reports of the Geological and Natural History Survey of Minnesota, Botanical series, I. pp. xiii. 826, with two maps.